THE

INDIAN JOURNAL

OF

AGRICULTURAL SCIENCE

Issued under the authority

of

The Imperial Council of Agricultural Research



Annual subscription Rs. 15 or 23s. 6d.

Price per part Rs. 3 or 5s.

Published by the Manager of Publications, Deliii
Printed by the Manager, Sanitya Mandir Press Ltd., Lucknow.
1945

Editorial Committee

- SIR PHEROZE M. KHAREGAT, C.I.E., I.C.S., Vice-Chairman, Imperial Council of Agricultural Research
- W. BURNS, C.I.E., D.Sc., I.A.S., Agricultural Commissioner with the Government of India
- F. WARE, C.I.E., F.R.C.V.S., F.N.I., I.V.S., Animal Husbandry Commissioner with the Government of India
- RAO BAHADUR B. VISWANAFH C.I.E., F.I.C. F.C.S., Director, Imperial Agricultural Research Institute, New Delhi
- F. C. MINETT, D Sc, M.R.C.V.S., Director, Imperial Veterinary Research Institute, Mukteswar

ZAL R. KOTHAVALLA, B.Ag., BSc.

N.D.D. Director of Dairy Research, Bangalore

J.N. MUKHERJEE, C.B. E., D. Sc., Ghose Professor of Chemistry, University College of Science and Technology, Calcutta

BIRBAL SAHNI, M.A., Sc.D. (Cantab.), D.Sc. (Lond.), F.R.S., Professor of Botany, Lucknow University

JAMES N. WARNER, M.Sc., Professor of Animal Husbandry and Dairying, Allahabad Agricultural Institute, Allahabad

- S. KRISHNA, C.I.E., Ph.D., D.Sc., F.I.C., Bio-Chemist, Forest Research Institute, Dehra Dun
- B. SAHAY, I.C.S., Secretary, Imperial Council of Agricultural Research

Editor

F. M. DE MELLO, B. A., B Sc. (Econ).

The Editorial Committee, in its work of examining papers received for publication, is assisted in an honorary capacity by a large number of scientists working in various parts of India.

Editorial communications including books and periodicals for review should

be addressed to the Secretary, Imperial Council of Agricultural Research Publication Section, New Delhi.

Communications regarding subscription and advertisements should be addressed to the Manager of Publication, Civil Lines, Delhi.

Instructions to Authors

Articles intended for THE INDIAN JOURNAL OF AGRICULTURAL SCIENCE should be accompanied by short popular abstracts of about 300 words each.

In the case of botanical and zoological names the International Rules of Botanical Nomenclature and the International Rules of Zoological Nomencla-

ture should be followed.

References to literature, arranged alphabetically according to authors' names, should be placed at the end of the article, the various references to each author being arranged chronologically. Each reference should contain the name of the author (with initials), the year of publication, title of the article, the abbreviated title of the publication, volume and page. In the text, the reference should be indicated by the author's name, followed by the year of publication enclosed in brackets; when the author's name occurs in the text, the

year of publication only need be given in brackets. If reference is made to several articles published by one author in a single year, these should be numbered in sequence and the number quoted after year both in the text and in the collected references.

If a paper has not been seen in original it is safe to state 'Original not seen'.

Sources of information should be

specifically acknowledged.

As the formal of the journals has been standardized, the size adopted being crown quarto (about $7\frac{1}{8}$ in.× $9\frac{3}{8}$ in. cut), no text-figure, when printed, should exceed $4\frac{1}{2}\times5$ inches. Figures for plates should be so planned as to fill a crown quarto plate, the maximum space available for figures being $5\frac{3}{4}$ in.×8 in exclusive of that for letterpress printing.

Copies of detailed instructions can be had from the Secretary, Imperial Council of Agricultural Research, New Delhi.

INDEX TO VOL. XIII

AUTHORS

Letter of the Charles of the Control of the Party of the	AGE	P	AGH
THE WARRING CAN A SHELL THE PARTY.		with special reference to the Changes	47-16-
Abbas, M. see Afzal, M 192,	634	in the Physico-Chemical Properties of	
Afzal, M., Rajaraman, S. and Abbas, M.—	001	the Soil: Soil Fertility Survey on the	
'Studies on the Cotton Jassid (Empoasca		Nira Left Bank and Godavari Canals'	572
devastans Distant) in the Punjab, VI.		Bhagwagar, P. R. see Padwick, G. W.	289
Effect of Jassid Infestation on the De-		Bhattacharya, S. C. 866 Nandi, H. K.	489
released intestation on the De-		Bhuiyan, A. B. see Raychaudhuri, S. P.	264
velopment and Fibre Properties of the	192	Dhulyan, A. D. See Raychaudhull, S. P	201
	192	THE PROPERTY OF STREET STREET,	
and Nazir Ahmad.—'Effect of		THE RESIDENCE OF STREET	
Differential Irrigation on Field Behavi-		Chakraborty. J. N 'Priliminary Treatment	
our and Quality of Punjab-American		of Red Soil Separates as obtained by	
	357	Mechanical Analysis for Mineralogical	
	349	Examination'	609
, Nanda, D. N. and Abbas, M.		see Raychaudhury, S. P	252
- Studies of the Cotton Jassid (Empo-		Chatterjee, B. and Sen, A 'Properties of	
asca devastans Distant) in the Punjab,	4.1	Synthetic Mixtures of Colloidal Solution	
IV. A Note on the Statistical Study of		of Silicic and Aluminium Hydroxide'	- 59
Jassid Population'	634		120
Agarwal, R. R. see Mukerji, B. K	587	Chawla, D. R. see Dalip Singh	368
Ahmad, S. see Ali Mchammad	468	Chowdhury, S.—'A Selerotial Disease of	14-
Aleem, S. A. see Ghani, M. O 142, 283,	377	Black Pepper'	565
Ali Mohammad and Ahmad, S Carbohy-		D Comment	
drate Metabolism in some Oleiferous		The state of the s	
	468	Daji, J. A. see Leley, V. K	291
Ansari, M. A. A. and Sant, G. K 'A Study		Dalip Singh and Nijhawan, S. D'Avail-	and the
of Soil Heterogeneity in relation to Size		ability of Phosphates in Alkaline and	
and Shape of Plots in Wheat Field at		Calcareous Soils'	134
	652		
itaya (matata District)		change Studies, II. Variation in the	
Apte, v. Iv. occ Rege, R. D	413	Content of Exchangeable Bases affecting	
Azmat Singh.—'Sampling of Sugarcane for	- 17	Plant Growth'	368
Chomitour tenury ors, 111	547	Dastur, R. H. and Tashna, U. C.—'Studies	
Azmatullah Khan, M. see Malik, S. A	522	in the Periodic Partial Failures of the	
B		Punjab-American Cottons in the Punjab,	
Dali CN W. DD	18	VIII. The Relation of Weather Factors	
Bagchi, S. N. see Mitra, R. P	598	with the Spread of Tirak in American	
Daiwant Kai see Pull, A. N	030		440
Basu, J. K. and Sirur, S. S.—'Soils of the		Cottons' and Wallton Si d Studion	449
Deccan Canals, III. Studies on the		and Mukhtar Singh—'Studies	
Effect of Various Rotational Crops and		in the Periodic Partial Failures of the	
Green Manures on the Soil and on the		Punjab-American Cottons in the Punjab,	
Succeeding Cane Crop, with special re-		IX. The Inter-relation of Manurial Fac-	
ference to Soil Structure'	66	tors and Water Supply on the Growth	
and Tagare, V. D.—'Soils of		and yield of 4F Cotton on Light Sandy	
the Deccan Canals, IV. The Alkali		Soils'	610
Soils, their Nature and Management'	157	Dave, B. B.—'The Wild Rice Problem in the	
			46
Soils of the		Central Provinces and its Solution'	TU
			10
Deccan Canals, V. Investigations into			1.00
Deccan Canals, V. Investigations into the Causes of Soil Deterioration under		the Central Provinces' in	4791 60
Deccan Canals, V. Investigations into			4791

Pagi	$\mathbf{P}_{\mathbf{A}}$	GE
Dutt, G.R. and Patel, M. S.—'The Cotton Boll-	D. HWater Requirements of Rabi	
worms (Earias Fabia Stoll., Platyedra Gossy	Jowar in the Scarcity Tracts of the	
piella Saund. and Heliothis Obsoleta Fabr.)		35
in the Central Provinces and Berar' Dutt, N. L.—'Varietal Composition of the	1 Kheswalla, K. F. see Mundkur, B. B 3 Krishna Ayyar, P. N Further Studies on	397
Sugarcane Crop in India in 1941-42' 47.		
Dutt, S. see Nandi, H. K 48	Direct and the control of the contro	
and the property of the property of the party of the part	affinis (Fst.)—In South India' 2	255
Fazal Uddin see Madhok, M. R 12	Kilishila, I. C.	
G	Use of some Common Indian Fruits and	146
Ghani, M. O.—'Fractionation of Soil Phos- phorous, I. Method of Extraction' 2:		13
phoreus, I. Method of Extraction' 2: and Aleem, S. A.—'Fractiona-	y Kuikaimi, r. 5. see Rege, R. D.	
tion of Soil Phosphorus, II. Chemical	Tal T D acc U I D C	82
Nature of the Phosphorous Fractions' 14:	Lal, T. B. see Vasudeva, R. S. Leather, J. W.—'Wheat Grain—Changes in	104
		569
the Distribution of Different Forms of	Leley, V. K., Narayana, N. and Daji, J. A	
Phosphorous in some Indian Soils, I. Surface Distribution' 28:	Biochemical Studies in the Growth and	
Studies of	Ripening of the Alphonse Mango' 2	291
the Distribution of Different Forms of	A MANAGEMENT OF THE STATE OF TH	
Phosphorous in some Indian Soils, II.	Madhok, M. R. and Fazal Uddin - Bacterial	
Vertical Distribution' 37	- /- I the second of the secon	00
The Use of 8-Hydroxy Quino- line as a Means of Blocking Active Iron	forming Organism' Malik, S. A. and Azmatullah Khan, M.—	129
and Aluminium in the Determination of	Parasitic Fungi of the North-West	
Available Phosphoric Acid of Soils by		522
Dilute Acid Extractions' 56	Millia, R. F., Dagelli, O. IV., Rav. D. F. Cult	
Gode, R. B. see Kantikar, N. V 23	Mukheriee, S Differentiation of Hy-	
Gokhale, D. H. see Kantikar, N. V. 23 Gulati, A. N. see Nazir Ahmad 49	diogen clays and if diogen bentonies	1
Gulati, A. N. see Nazir Ahmad 49	and identification of mineral Constitu-	
Hoon, R. C. and Dhawan, C. L.—'The Occur-	ents contained in them by Electro-Chemi- cal Methods, II. Montmorillonitic Clays	
rence and Significance of Trace Elements	and Bentonites'	18
in Relation to Soil Deterioration' 60	The same of the sa	18
Transact D. I. M. Wanistian in the Wangur.	Mukerji, B. K. and Agarwal, R. R Stu-	17 2
Iyengar, R. L. N.—'Variation in the Measurable Characters of Cotton Fibres, V.	dies of Bundelkhand Soils, I. The	
Variations caused by Change of Place		587
and Season' 43	4 Mukhtar Singh see Dastur, R. H	610
'Variation in the Measur-	Mundkar, B. B Studies in Indian Cereal	
able Characters of Cotton Fibres, VI.	Smuts, V. Mode of Transmission of the	J.
Variation in the Uncollapsed Diameter of the Cotton Fibre' 64	Karnal Bunt of Wheat'	54
of the cotton fibre	Smuts, VI. The Smuts on Sawan (Echi-	
Janjua, N. A., Mustafa, A. M. and Samuel,		631
C. K.—'On the Biology and Control of	and Kheswalla, K. F'A	
Codling Moth (Cydia pomonella Linn.)		397
in Baluchistan' 11	3 Mustafa, A. M. see Janjua, N. A.	113
CID K. SHEEL	Mally only IV North Committee	1
Kalamkar, R. J., Kadam, B. S., Satakopan, V.		634
and Rao, S. Gopal—'Studies on Precision Observations on Rice at Karjat'20	Nandi, H. K., Bhattacharya, S. C. and Dutt, S.—'Nursery Behaviour of Five Indi-	2
Kadam, B. S. see Kalamkar, R. J.		
Kanitkar, N. V., Gode, R. B. and Gokhale,	The state of the s	4 89

	PAGE		PAGE
Nanjundayya, C. and Nazir Ahmad—'Design of a Simple Quartz Micro-Balance' Narayana, N. see Leley, V. K	649	Rhind, D., Thein, U Ba and Tin, U—'Growth and Yield Studies on irrigated Paddy in Upper Burma'	335
Narayana, N. see Leley, V. K. Nazir Ahmad see Afzal, M. see Nanjundayya, C. and Gulati, A.N.—'The Effect	64.4	S. S	
Conditions on the Quality of Indian	NUMBER OF THE PARTY OF THE PART	Samuel, C. K. see Janjua, N. A. Sannabhadti, S. K. see Rege, R. D. Sant, G. K. see Ansari, M. A. A.	$ \begin{array}{r} 113 \\ 87 \\ 652 \end{array} $
Cottons' Nijhawan, S. D. see Dalip Singh	494 134	Satakopan, V. see Kalamkar, R. J. Sen, A. and Viswanath, B.—'Drain Gauge (Lysimeter) Studies at Pusa during	204
Padwick, G. W. and Bhagwagar, P. R.—'Wilt		Thirty Years' Sen, A. see Chatterjee, B	531
of Gram in Relation to Date of Sowing' Patel, J. S. see Varada Rajan, B. S. Patel, M. K. see Uppal, B. N	289 148 520	Sen, P. K.—Black-Tip Disease of the Man-	300
Patel, M. S. see Dutt, G. R Pruthi, H. S.—'A New Important Pest of Wheat Crop in India'	1	Siddappa, G. S.—'Studies on Fruit and Vegetable Products, III. Ascorbic Acid (Vitamin C) Content of some Fruits,	
Puri, A. N. and Balwant Rai—'A Field Method of Determining Clay Content of		Vegetables and their Products' Singh, H. B.—'Effect of Frost on some Eco-	639
Soils' R	598	nomic Plants of Delhi' Singh, U. B.—'The Pink Disease of Apple in Kumaun'	279.
Rajaraman, S. see Afzal, M and Afzal, M.—'A Study of the Changes in the Quality of Punjab-	192	Sircar, S. M.—'A Preliminary Study of Res- piration in relation to Nitrogen Metabo-	528
American 289F/43 Cotton with Variations in the Dates of Sowing and with Progressive Pickings'		lism of Potato Tubers' Sirur, S. S. see Basu, J. K. Sreenivasan, P. S.—'Studies on the Estimation of Growth and Yield of Jowar by	382 66
Ramachandra Rao, Y.—'Some Results of Studies on the Desert Locust (Schisto- cerca gregaria Forsk.) in India'	659	Sampling' Sulaiman, M. see Raychaudhuri, S. P	399 264
Raman, P. K.— 'Preliminary Studies on the Wind Break Effect of Crops'	273		7, 572
Rao, S. Gopal see Kalamkar, R. J. Raychaudhuri, S. P. and Chakraborty, J.N. Studies on Indian Red Soils, VII. In-	204	Tashna, U. C. see Dastur, R. H. Thein, U Ba see Rhind, D. Tin, U see Rhind, D.	449 335 335
fluence of Rainfall and Altitude above Sea level on the Chemical Composition of Clay Fractions of Soil Types'	252	Uppal, B. N. and Patel, M. K.—'Long Smut of Sorghum Purpurco-sericeum'	520
Sulaiman, M. and Bhuiyan, A. B.—'Physico-chemical and Mineralo- gical Studies of Black and Red Soil		V Vagholkar, B. P. see Rege, R. D.	413
Profiles near Coimbatore'	264 18	Varada Rajan, B. S. and Patel, J. S.—'Stem-Rot Disease of Jute'	148
Rege, R. D. and Sannabhadti, S. K.—Prob- lems of Sugarcane Physiology in the Deccan Canal Tract, IV. Mineral Nu-	105	Vasudeva, R. S. and Lal, T. B.—'A Mosaic Disease of Bottle Gourd' 'Studies on the Root-rot	182
rition: (A) Phosphates'	87	Disease of Cotton in the Punjab, XII. Control by Varying Sowing Date' Viswanath, B. see Sen, A	515 531
lems of Sugarcane Physiology in the Deccan Canal Tract, V. Water Re- quirement'	413	Wagle, P. V. see Rege, R. D	413

SUBJECTS

PAGE	PAGE
	Central Provinces and Berar, cotton boll-
A	worms in
Alkaline soils, availability of phosphates in 134	
Alkali soils, their nature and management 157	
Alphonse mango, biochemecial studies in the	soil work carried out under the 676
growth and ripening of 291	, wild rice problem in 46
Aluminium hydroxide and silicic acid, col-	Cereal smuts (Indian) 54, 631
loidal solutions of 59	Chemical analysis, sampling of sugarcane
—————, use of 8-hydroxy quinoline as a means of blocking 562	for 547
means of blocking 562 American cottons, spread of tirak in 449	Cicer arielinum, see gram 289
Andropogon sorghum, see jowar 235, 399	Citrus rootstock varietics, nursery behavi-
Apple in kumaun, pink disease of 528	our of 489
trees, canker in Mysore 397	Clay content of soils, a field method for
Ascorbic acid (vitamin C) content of fruits,	determination 598
vegetables and their products 639	fractions of soil types, chemical com-
Assam, nursery behaviour of citrus root-	positions of 252
stock varieties in 489	Clays (hydrogen) and hydrogen bentonites, differentiation of
- A THE RESERVE OF THE PARTY OF	differentiation of 18 Codling moth in Baluchistan, biology and
	acastrol of
Bacterial soft rot of tomatoes 129	Coimbatore, physico-chemical and mineralo-
Baluchistan, biology and control of codling	gical studies of soil profiles near 264
moth in	Colloidal solutions of silicic acid and alumi-
Bentonites (hydrogen) and hydrogen clays,	nium hydroxide 59
differentiation of 18	Corchorus capsularis, see jute 148
Biochemical studies in the growth and ripen	olitorius, see jute 148
ing of Alphonse mango 291	Corticium salmonicolor, causing pink disease
Biology and control of codling moth in	of apple in Kumaun 528
Baluchistan 113	Cotton bollworms in the Central Provinces 1
Black pepper, a sclerotial disease of 565	-—————————————————————————————————————
Black tip disease of the mango 300	
Bollworms of cotton in the Central Pro-	Cottons (Indian), effect of storage on the
vinces 1	quality of 494 Cotton jassid in the Punjab, III 192
Bombay-Deccan scarcity tracts, water re-	Cotton jassid in the Punjab, III 192 ————————————————————————————————————
quirement of rabi jowar in 235	statistical study of population of 634
Bottle gourd, a mosaic disease of 182	Cotton plant, effect of jassid infestation on
Brassicae (oleiferous), carbohydrate meta-	the development of
bolism in 468	(Punjab-American 289F/43), changes
Bundelkhand soils, genetic types of 587	in the quality of 349
Bunt of wheat (Karnal), mode of transmis-	(Punjab-American 4F), effect of
sion 54 Burma (Upper), irrigated paddy in 335	differential irrigation on field behavi-
burnia (Opper), irrigated paddy in 333	our and quality of 357
C C	Cottons (Punjab-American), periodic par-
Calcareous soils, availability of phosphates	tial failures of 449, 610 Cotton root-rot 515
in 134	stem weevil, distribution and sea-
Cane, see sugarcane 66, 413, 471, 547, 572	sonal history of 255
Canker of apple trees in Mysore 397	(4F), interrelation of manurial
Carbohydrate metabolism in some cleifer-	factors and water supply on the growth
ous brassicae 468	and yield on light sandy soil 610

	PAGE	Pac	GΕ
Crops, wind-break effect of	273	Gossypium, see cotton 1, 192, 255, 349, 357, 43	34.
Cydia pomonella (codling moth), biology		449, 494, 515, 610, 634, 6	
and control of	113	(1000000)	82
			189
The state of the s		Green manures, effect on soil and succeeding	00
Deccan canals, soils of 66, 15	7, 572		66
canal tract, sugarcane physiology		Growth of the Alphonse mango, biochemical	91
problems in 87 Delhi, effect of frost on some economic plants	7, 413,	studies in 2	01
	370	H	
Desert locust in India	$\begin{array}{c} 279 \\ 659 \end{array}$	Heliothis obsoleta Fabr. (cotton bollworms)	
Differential irrigation, effect on field behavi-		in the Central Provinces	1
our and quality of Punjab-American 4F		Hydrogen clays and hydrogen bentonites,	10
cotton	357	differentiation of	18
Drain gauge (Lysimeter) studies at Pusa	531	THE RESIDENCE OF THE PARTY OF T	
		Indian cereal smuts 54, 6	31
The Control of the Co		cottons, effect of storage on the	
Earias fabia Stoll. (cotton bollworms) in the			94
Central Provinces	1	——fruits and vegetables used in making jellies ——4	10
Echinochloa frumentacca, see sawan		Dod suils	$\frac{46}{52}$
Economic plants of Delhi, effect of frost on		——soils, distribution of phosphorus	04
Electro-chemical methods, identification of		in 283, 3	77
mineral constituents by Empoasea devastans (cotton jassid) in the	18	Indigenous citrus rootstock varieties, nur-	
Punjab	192	sery behaviour of 4	89
, statistical study of		Intensive system of sugarcane growing, soil	
population of	634		72
Eurygaster maura Linn., a new pest of	E	Iron, use of 8-hydroxy quinoline as a means	CO
wheat crop in India	232	of blocking 5. Irrigated paddy in Upper Burna, growth	62
Exchangeable bases, variation in the content	t		35
of	368	Irrigation (differential), effect on field be-	00
The second of Facilities and the second of t		haviour and quality of Punjab-American	
Till an Court in the table was and			57
Fibres of cotton, variation in the measurable characters of 43	4 646	markettell tell per aller i te der sene	
able characters of 43- Fibre properties of the cotton plant, effect		Jassid infestation, effect on the development	
of jassid infestation on	192		92
Field behaviour and quality of Punjab-	lav.		34
American 4F cotton, effect of differen-	mod ?	Jellies of some common Indian fruits and	
tial irrigation on	357	vegetables 4	46
method of determining clay content	500	Jowar, estimation of growth and yield by	dd
of soils	598		99
Fractionation of soil phosphorus2 Frost, effect on some economic plants of	29, 144	T	$\frac{35}{48}$
Delhi	279	Jule, stem-rot disease of 1	10
Fruits and vegetables (Indian), use in		N. C.	1
making jellies	446		04
Fruit and vegetable products, ascorbic	2 19	The state of the s	54 89
acid content of	639	Kumaun, pink disease of apple in	28
Fungi (parasitie) of the North West Fron-	****	artificial, plant discuss of approximation, and approximation and appr	
tier Province	. 522	To a la de la seconda de la se	0.0
G			82 59
Genetic types of Bundelkhand soils	587		520
Godavari canal, soil fertility survey of	572		31

	PAGE		PAGE
M M		Orange, see citrus	489
Macrophomina phaseoli, causing root rot	tof	Oryza sativa, see rice 46, 204, 3	35, 479, 676
eottoncausing stem-rot of j	515	P addy.	
	jute 148	Paddy, see rice 46, 204, 33	
Mangifera indica, see mango	291, 300	Parasitic fungi of the North-West Fr	
Mango (Alphonse), biochemical studies	291	Province	522
growth and ripening of , black-tip disease of	300	Pempherulus affinis Fst. (cotton stem w	reevil),
Manures and fertilizers		distribution and seasonal history of	
Soils of the Decean canals, III. Stud	lies	Pentatomid bug (Eurygaster maura)	
on the effect of various rotational cr		Pepper (black), a sclerotial disease of Phosphoric acid of soils, determinated	
and green manures on the soil and		the use of 8 (OH) quinoline	562
the succeeding cane crop, with spec reference to soil structure	66 66	Phosphorus, distribution of different	forms
Studies in the periodic partial fails	****	in some Indian soils	283, 377
of the Punjab-American cottons in	the	———in soil, fractionation of	29, 142
Punjab, IX. The interrelation of ma		Phosphates, availability in alkaline ar	nd cal- 134
rial factors and water supply on		careous soils Phosphate nutrition of sugarcane	
growth and yield of 4F cotton on li		Deccan canal tract	87
sandy soils Maynard Ganga Ram Prize	610	Physice-chemical properties of the I	Deccan
Measurable characters of cotton fibres, vi		canal soils, changes in	572
		studies of black an	id red
ations in Mechanical analysis, red soil separates	ob-	soil profiles near Coimbatore	
tained by	609	Physiology of sugarcane in the Deccar	
Metabolism (carbohydrate) in some olei	ter-	tract	4.13
ous brassicae	468 382	Pink disease of apple in Kumaun Piper nigrum, see black pepper	
Micro-balance (quartz), design of		Plant growth affected by variation	
Mineral constituents contained in hydro		content of exchangeable bases	
clays and hydrogen bentonites, iden		Plant quarantine notifications 3	34, 447, 566
cation of	18	Platyedra gossypiella Saund. (cotto	n boll-
nutrition of sugarcane in the I can canal tract	87	worms) in the Central Provinces	1
Mineralogical examination, prelimin		Potato tubers, respiration in relating nitrogen metabolism of	ion to 382
treatment of red soil separates obtai		Precision observations on rice at Kar	
for	609	Profiles (soil), physico-chemical and	
studies of black and red		ralogical studies of	264
profiles near Coimbatore Montmorillonitic clays and bentonites	264	Progressive pickings, changes in the	quality
Mosaic disease of bottle gourd	182	of cotton with	349
Mysore, a canker of apple trees in	397	Punjab-American 289F/43 cotton, c	
N		in the quality of	349
Neovossia indica, Karnal bunt of wheat	54	rential irrigation on field behavio	un and
Nira left bank canal, soil fertility survey		quality of cottons, periodic failures of	357
Nitrogen metabolism of potato tubers	382	cottons, periodic	partial
North-West Frontier Province, paras		failures of	449, 610
fungi of Nursery behaviour of five indigenous cit	522	Punjab, studies on the cotton jassid	
rootstock varieties	489	, root-rot disease of cotton in t	634 he 515
0		Pusa, drain gauge (Lysimeter) studie	he 515 es at 531
Octa-hydroxy quinoline, use of	562		397, 528
Oleiferous brassicae, carbohydrate met		Q	
lism in	468	Quarantine notifications (plant)	334, 447, 560

	PAGE	P_{AG}	æ
Quartz micro-balance (simple), design of	649	Soil heterogeneity in relation to size and	
Quinoline (8-hydroxy), use of	562		52
euthornic (o hydroxy), the or		phosphorus, fractionation of 29, 14	42
N	005	——profiles, physico-chemical and mine-	
Rabi jowar, water requirement of	235	ralogical studies of 20	64
Rainfall, influence on the chemical composi-	050	(red) separates, preliminary treatment	
tions of elay fractions	252		09
Raya, size and shape of plots in wheat field	652		66
at	252	survey of the Nira Left Bank and	
Red soils (Indian), studies of soil separates, preliminary treatment of	609	Godavari Canals 57	72
Respiration in relation to nitrogen metabo-	000	work carried out under the Central	_
	382 -		76
Rhizoctonia solani Kuhn., causing root-rot	002	Soils (alkaline and calcareous), availability	0.4
C = 11 - 1	515		34
Rice (irrigated), growth and yield studies		——, elay content of 59 ——, determination of available phosphoric	98
on	335		62
, precision observations on	204	——(Indian), distribution of phosphorus	04
-Research Scheme (Central Provinces),			77
soil work carried out under the	676		87
-strains (improved) in the Central Pro-		——of the Deccan canals 66, 157, 5	
vinces	479		52
—(wild) problem in the Central Pro-	1.0	Solanum tuberosum, see potato 3	82
vinces	46	Sorghum purpureo-sericeum, long smut of 55	20.
Ripening of the Alphonse mango, biochemi-	901	South India, distribution and seasonal his-	
cal studies in	291		55
Root-rot disease of cotton in the Punjab	515	Sowing date, control of cotton root-rot by	
Rootstock varieties of citrus, nursery beha-	489	varying 5	15
viour of Rotational crops, effect on soil and succeed-	100		
ing cane crop	66		49
Rot (soft) of tomatoes	129		89
Rot (stem) of jute	148	Spore-forming organism, bacterial soft rot	20
itor (stem) will just		~	$\frac{29}{34}$
The state of the s			48
Saccharum, see sugarcane 66, 87, 413, 471	547,	Stem weevil of cotton, distribution and sea-	10
	572		55
Sampling, estimation of growth and yield		Storage, effect on the quality of Indian cot-	
of jowar by	399		94
of sugarcane for chemical analysis	547	Sugarcane crop, effect of rotational crops	
Sawan (Echinochloa frumentacea), smuts	003	and green manures t	66
on	631	in India, varietal composition	
Schistocerca gregaria Forsk. (desert locust)	659		71
Sclerotial disease of black pepper	565	growing, soil deterioration	=-
Scierotium rolfsii, eausing scierotial disease	566		72
of black pepper Silicic acid and aluminium hydroxide, col-	300		10
loidal solutions of	59	Decean canal tract 87, 4sampling for chemical analysis 5	15
Courts of Indian canala	54	sampling for enemical analysis	47
of comme	631	T	
Smut (long) of Sorghum purpureo-seri-		Maria de la companya della companya	
(cum	520	7.1	49
Soil deterioration, trace elements in relation		- or the first transfer of the first transfe	20
10	601	and the state of t	29
, effect of rotational crops and green	1		501
manures on	66	Triticum sp., see wheat 6	552

PAGE	P	AGE
Upper Burma, irrigated paddy in Uslilago sp., see smuts 335 631	Vitamin C (ascorbic acid) content of fruits, vegetables and their products	639
V	Water requirement of rabi jowar in the scarcity tracts of the Bombay-Deccan	235
Variations in the measurable characters of cotton fibres 434, 646		418
Varietal composition of the sugarcane crop in India in 1941-42 471	Water-supply and manurial factors, inter- relation on the growth and yield of 4-F	
Vegetables and fruits (Indian), use in making jellies 446	cotton	610
Vegetable and fruit products, ascorbic acid content of 639	seasonal history of	$\frac{255}{232}$
Vertical distribution of phosphorus in Indian soils 377	field at Raya, size and shape of plots	$652 \\ 569$

